

Notice of Allowability

Application No.

10/602,732

Examiner

Andrew Schechter

Applicant(s)

WANG ET AL.

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of 25 June 2003.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 07 July 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-6, drawn to a method of making an LCD, classified in class 349, subclass 187.
 - II. Claims 7-9, drawn to an LCD, classified in class 349, subclass 160.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the device of invention II can be made by a materially different process, such as without using pressure greater than atmospheric pressure to make one of the substrates concave.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Because these inventions are distinct for the reasons given above and the search required for Group II is not required for Group I, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Richard Burgujian, Reg. No. 31,744, on 27 August 2004, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-6. Affirmation of this election must be made by applicant in replying to this Office action.

Claims 7-9 are withdrawn from further consideration by the examiner, pursuant to 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

EXAMINER'S AMENDMENT

6. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment to the claims was given in a telephone interview with Richard Burgujian, Reg. No. 31,744, on 21 September 2004.

The application has been amended as follows:

In the claims:

Claims 7-9 have been cancelled.

In the title:

The title has been changed to: "Liquid crystal display having a concave substrate and manufacturing method therefor".

End of examiner's amendment.

Allowable Subject Matter

7. Claims 1-6 are allowed.

8. The following is an examiner's statement of reasons for allowance:

The prior art does not disclose the method of claim 1, in particular the limitations of dispensing a liquid crystal material to at least one of the pair of substrates and conducting a curing process of the adhesive in an air pressure greater than atmospheric pressure such that one of the substrates is concave toward the other substrate in the finished liquid crystal display. The nearest prior art is discussed below. Claim 1 is therefore allowed, as are dependent claims 2 and 3.

The prior art does not disclose the method of claim 4, in particular the limitations of dispensing a liquid crystal material to at least one of the inner surfaces of the pair of substrates and conducting a curing process of the adhesive in the chamber maintained at greater-than-atmospheric pressure, wherein increasing the air pressure in the chamber creates a pressing force such that one of the substrates is concave toward the other substrate in the finished liquid crystal display. The nearest prior art is discussed below. Claim 4 is therefore allowed, as are dependent claims 5 and 6.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,537,235 to *Ishihara et al.* discloses a method of manufacturing a liquid crystal display comprising applying an adhesive [14] onto at least one of the pair of substrates, dispensing a liquid crystal material [7a] to at least one of the pair of substrates, superposing one of the pair of substrates upon the other substrate [col. 6, lines 27-28] in a lower-than-atmospheric pressure, and conducting a curing process of the adhesive [col. 6, lines 31-33] such that one of the substrates is concave towards the

other substrate in the finished liquid crystal display. However, the curing process is done at atmospheric pressure, rather than at greater than atmospheric pressure as recited in claims 1 and 4.

U.S. Patent No. 5,307,190 to *Wakita et al.* discloses a method of manufacturing a liquid crystal display with one substrate [1] concave towards the other [2], but does not disclose conducting a curing process of the adhesive in an air pressure greater than atmospheric pressure such that the substrate is concave.

U.S. Patent No. 4,526,818 to *Hoshikawa et al.* discloses a method of manufacturing a liquid crystal display with one substrate [1] concave towards the other [2], but does not disclose conducting a curing process of the adhesive in an air pressure greater than atmospheric pressure such that the substrate is concave.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Schechter whose telephone number is (571) 272-2302. The examiner can normally be reached on Monday - Friday, 9:00 - 5:30.

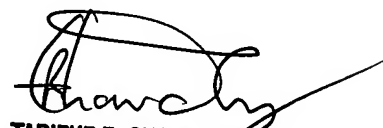
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS

Andrew Schechter
21 September 2004


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER